



## Viola Playing May Be a Strong Aggravating Factor for Temporomandibular Disorder

### Viyola Çalmak Temporomandibular Bozukluk için Güçlü Bir Ağırıştırıcı Faktör Olabilir

Viola and Temporomandibular Disorder

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#### Özet

Temporomandibular bozukluk (TMB), temporomandibular eklem bölgesinden kaynaklanan semptomları tanımlamak için kullanılan genel bir terimdir. Hastalığın en sık belirtisi çene hareketleri esnasındaki ağrıdır. Etiyolojinin çok faktörlü olduğu düşünülmektedir. Travma, oklüzal uyumsuzluklar, stres, parafonksiyonlar, hiper-mobilite ve kalıtım gibi çeşitli faktörler kişiyi bu hastalığa meyilli hale getirebilir. Viyola çalmanın TMB için bir predispozan faktör olabileceği bildirilmiştir. Bu yazıda, viyola çalmayla şiddetlenen TMB semptomları olan 24 yaşında bir erkek hasta sunulmakta ve viyola çalmanın TMB için güçlü bir ağırıştırıcı faktör olabileceği vurgulanmaktadır.

#### Anahtar Kelimeler

Temporomandibular Bozukluk; Viyola; Ağrı

#### Abstract

Temporomandibular disorder (TMD) is the general term used to describe the symptoms originated from temporomandibular joint region. The most common symptom of the disorder is pain during mandibular movement. Etiology of TMD is multifactorial. Several factors such as trauma, occlusal discrepancies, stress, parafunctions, hypermobility, and heredity can make one more vulnerable to this disorder. It has been reported that viola playing might be a predisposing factor for TMD. In this article, we present a 24 year old male patient suffering from TMD symptoms exacerbated by viola playing and emphasize that viola playing may be a powerful aggravating factor for TMD.

#### Keywords

Temporomandibular Disorder; Viola; Pain

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## Introduction

Temporomandibular disorder (TMD) is the general term used to describe the manifestation of pain and/or dysfunction originated from temporomandibular joint region [1]. Etiology of TMD symptoms is multifactorial and not clearly understood [2]. The clinical picture associated with TMD includes facial pain, headache, ear pain, tinnitus, and temporomandibular joint sounds. However, the pain during mandibular movement is the most common symptom of TMD [3].

Magnetic resonance imaging may provide precise diagnosis in specific disorders of temporomandibular joint. Laboratory tests are useful for differential diagnosis. Detecting the specific cause of the disorder is crucial to determine the treatment planning. Objectives of treatment are to relieve pain, eliminate dysfunction and prevent progression of disorder [3].

There are very few reports in regard to relationship between viola playing and TMD. The purpose of this article is to present a case suffering from TMD symptoms exacerbated by viola playing and emphasize that viola playing may be a strong aggravating factor for TMD.

## Case Report

A 24 year old male patient studying Music was admitted to our outpatient clinic with the complaints of ear and temporomandibular joint pain. In his case history, the patient stated pain, sound and locking in temporomandibular joint having developed two years ago, increasing in the morning and felt more frequently and densely on the right side, difficulty in closing and opening the mouth and, additionally, pain and ringing in the ears for the last one year. He complained about the gradual increase in severity and frequency of his complaints. In his etiologic investigation, the patient reported that he had suffered from a right jaw trauma due to falling approximately 10 years ago, he has been playing viola in music classes for 3 years and he had a hard time playing viola due to pain and got stressed as a result of this. He stated that he did not have bruxism except for teeth clenching and lip biting for the last one year. In physical examination, an old 3cm incision scar on lower-right side of jaw (scar from the jaw trauma having occurred 10 years ago) was detected. Temporomandibular joint palpation was bilaterally sensitive. Mouth opening movement was painful and limited (3cm), and he felt clicking and locking in temporomandibular joints during jaw movements. Patient had no other aching joints and no hypermobility. Laboratory test values were normal. No pathological findings were detected in otorhinolaryngological examination. However, attrition and non-occlusion were detected in dental examination. Also, subluxation of degenerated disc-condyle complex with reduction was found in temporomandibular joint on right and left sides in magnetic resonance imaging (MRI) (Figure 1).

In the light of the present findings, the patient was diagnosed with specific TMD aggravated by chronic trauma associated with playing viola. Patient was informed about the condition and recommended to apply a protective program, use occlusal splint and take a break from playing viola. Except for using splint, he followed our recommendations and showed significant improvement in his symptoms within three weeks. However, the same symptoms reappeared in the patient who began playing

viola again. Thus, a report explaining the situation was sent to the patient's music trainer and the musical instrument used by patient was recommended to be changed. This advice was accepted. When patient re-visited our clinic six months later, the signs and symptoms were almost totally eliminated apart from a slight clicking and he was content with his condition.

## Discussion

Several factors have been proposed to contribute to TMD including trauma, occlusal discrepancies, stress, parafunctions, hypermobility, age, gender, and heredity [2,3]. Also, studies have reported that there are predisposing, initiating and aggravating factors contributing to this disorder [2]. On the other hand, in the literature it is reported that viola players seem to be predisposed to TMD [4].

Musicians may suffer from some specific musculoskeletal problems due to their musical instruments and physical characteristics. A musician's experience of such an issue is a serious professional problem. Therefore, precautions to be taken and choosing the right instrument are important to minimize this risk. In our patient, TMD symptoms had appeared after first year of viola playing. Although he had some initiating and predisposing factors such as jaw trauma, occlusal discrepancy, and parafunctions, patient almost completely improved spontaneously when he stopped playing viola. It is evident from this finding that viola playing may be a strong aggravating factor for TMD.

Our patient was a university student studying Music. Rehearsals lasting for hours both during pre-stage and stage performances may cause overuse problems in the body parts used. Physical limitation, style of playing and technical mistakes especially by

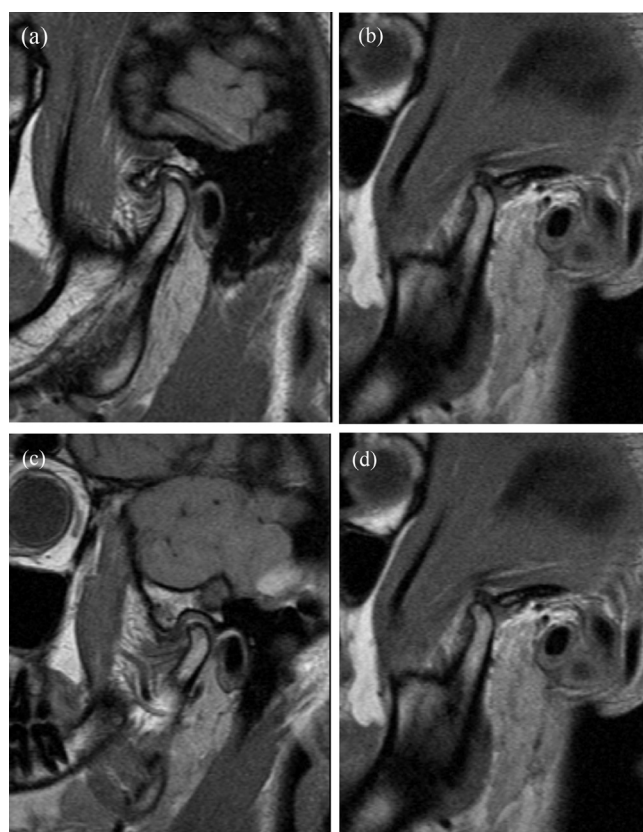


Figure 1. MRI of right temporomandibular joint (closed-mouth position) (A); MRI of right temporomandibular joint (open-mouth position) (B); MRI of left temporomandibular joint (closed-mouth position) (C); MRI of left temporomandibular joint (open-mouth position) (D).

the young musicians during learning period may overburden the musculoskeletal system. Furthermore, being exposed to stress (e.g. academic success in students and stage anxiety in professionals) may also result in strained and exhausted muscles. Additionally, musicians may have specific musculoskeletal system problems which can go unnoticed. Detecting these personal, specific problems before choosing a musical instrument may prevent choosing a musical instrument which is bad for the person's health. Our patient, on one hand, was carrying TMD risk due to having initiating and predisposing factors, on the other hand, had a new and strong aggravating factor by being exposed to chronic trauma triggered by playing viola. This situation could have been detected before choosing a musical instrument.

In musicians playing viola, pain in shoulder and cervicodorsal region, in addition to temporomandibular region, was also highlighted and pointed out [5]; however, this was not the case with our patient. Also, it has been claimed that viola players are injured frequently [6,7] and, furthermore, facial morphology in long-term viola players might change in time [8]. The gradual increase in the severity of symptoms in our patient and developing of ear pain and ringing over time might indicate the progression of disease. Due to anatomical closeness, pain caused by ears, parotids and chewing muscles are generally confused with pain originating from temporomandibular joint [9]. However, there were no pathological findings in otorhinolaryngological examination of the patient.

A variety of factors are assumed to play role in the etiology of TMD [2,3]. Accordingly, there are a variety of treatment options as well [3]. We thought that predisposing and aggravating factors came together in our patient; thus, we aimed to reduce these risk factors in our treatment plan. We recommended our patient to use oral splints; however, we later decided the musical instrument to be changed because the patient rejected to use splints and he was a student yet. Surely, it is the last resort for professionals with long and successful careers to change the musical instrument.

In conclusion, it is suggested that long-term viola playing may be a powerful aggravating factor for symptoms of TMD. Choosing viola for a young Music student with risk factors of TMD may not be a right decision. Taking advice from relevant medical branches while choosing a musical instrument may prevent health problems caused by choosing the wrong musical instrument.

### Competing interests

The authors declare that they have no competing interests.

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